

Use of *Trichoderma* for Control of Soil-born Pathogens in Onions

Jan van der Heide, CCE - Oswego County

Introduction

Soil fungicides are only partially effective in controlling some soil-born fungal pathogens in commercial onion production, especially later in the season when fungicides applied at planting time have washed out or are no longer effective.

Red onions are particularly sensitive to *Fusarium* basal plate rot, since very little resistant germplasm is available.

Fusarium basal plate rot, caused by *Fusarium oxysporum cepae*, can cause severe losses in commercial onion production. Usually, soil fungicides are applied as a soil drench at planting time to control *Rhizoctonia*, *Pythium* and *Fusarium* species that cause "damping-off" of seedlings. In addition many of the yellow onion varieties show some degree of resistance to *Fusarium*. Red onions, on the other hand, are generally susceptible to *Fusarium* basal plate rot. Optimum temperatures for disease development is 25-28 °C. These temperatures are not reached until later in the growing season.

Rotation with nonsusceptible crops is necessary for 4 years in fields that have been infested with *Fusarium*. This is not a feasible practice for the onion growers of Central New York, because market pressures have forced growers in almost continuous onion production.

The biological fungicide T-22 has been used successfully to prevent infection by root invading soil-born pathogens in a variety of crops, including corn, cabbage, tomatoes, cucumbers and ornamental crops, and has also been shown to be effective in preventing infection of strawberry fruit with *Botrytis* grey mold.

In this report we present results from an experiment in which we tested the effectiveness of T-22 biological fungicide on prevention of *Fusarium* basal plate rot in red onions.

For a printed copy of the entire report, please contact the NYS IPM office at:

IPM House
630 W. North St.
New York State Agricultural Experiment Station
Geneva NY 14456
315-878-2353